REMARKS

Applicants respectfully request consideration of the subject application. This Response is submitted in response to the Final Office Action mailed June 11, 2008. Claims 4-8 and 21-23 are pending. Claims 4-8 and 21-23 are rejected. In this Amendment, claims 6 and 21 have been amended; claims 4, 5, and 22-23 have been canceled; and no new claims have been added. Furthermore, no new matter has been added.

35 U.S.C. § 103 Rejections

The Examiner has rejected claims 21 and 8 under 35 U.S.C. § 103(a) as being unpatentable over previously cited Meir, U.S. Publication No. 2005/0174737 (hereinafter "Meir"). The Examiner has rejected claims 22 and 23 under 35 U.S.C. § 103(a) as being unpatentable over Meir and further in view of Atkinson, U.S. Publication No. 2005/0204747 (hereinafter "Atkinson"). The Examiner has rejected claim 4 under 35 U.S.C. § 103(a) as being unpatentable over Meir as applied to claim 21 above, and further in view of Watanabe, U.S. Patent 6,817,191 (hereinafter "Watanabe"). The Examiner has rejected claims 5 and 6 under 35 U.S.C. § 103(a) as being unpatentable over Meir as applied to claim 21 and further in view of Richman, U.S. Patent 4,685,081 (hereinafter "Richman"). The Examiner has rejected claim 7 under 35 U.S.C. § 103(a) as being unpatentable over Meir as applied to claim 6 above, and further in view of Palfy, U.S. Patent 6,470,696 (hereinafter "Watanabe").

Meir teaches a cooling system including a thermoelectric component 318 and a cold plate 317 between the thermoelectric component 318 and microprocessor 322. (See, e.g., fig. 2). A CPU temperature sensor 320 is mounted on the cold plate 317 and coupled to the controller 322. The CPU temperature sensor 320 is used to indicate the temperature of the CPU 309. An ambient temperature sensor 324 is also connected to the controller 322 and is used to indicate the ambient temperature within the case. (See, e.g., paragraph 0102). Meir states, "In this way, microprocessor 322 can control both TEC 318 operation and fan 314 operation in accordance with the temperatures of CPU 309 and the ambient temperature within the case, as sampled by the sensors 320, 324." (Paragraph 0102)(underlining added).

Meir does not teach or suggest a junction temperature sensor providing an indication when the temperature of the microelectronic die approaches a predetermined maximum, in which case current provided to the thermoelectric module is increased, and a cold-side temperature sensor and a hot-side temperature sensor from which a difference between the cold-side temperature sensor and hot-side temperature sensor provides an indication of a degree of heat that is pumped by the thermoelectric module and is used to control an amount of current to the thermoelectric module in order to maintain a temperature sensed by the junction temperature sensor within a predetermined range. Rather, Meir only teaches a CPU temperature sensor 320 used to monitor the temperature of the CPU.

Atkinson teaches an apparatus used to secure or clamp together the components of a cooling device including a thermoelectric component, but however, does not teach or suggest temperature sensors. Therefore, Atkinson does not cure the deficiencies of Meir.

Watanabe teaches a temperature control device for an inkjet head. The device includes a radiator connected to a thermoelectric module connected to the inkjet head. The radiator (heat sink) temperature is provided by temperature sensor 4 in Figure 1. Furthermore, a difference between temperatures on the radiator side and inkjet head side of the thermoelectric module 2 is provided to determine the temperature of the inkjet head. Watanabe states:

> The control unit 9 obtains a temperature of the ink-jet head 1 by adding the temperature on the radiator 3 side and the temperature difference on both sides of the thermoelectric module 2.

(Col. 6, ll. 9-12). Thereafter, control unit 9 uses this determined temperature of the inkjet head to control the current to the thermoelectric module 2. It does so by comparing the inkjet head temperature to a predetermined target temperature.

Watanabe does not teach or suggest a junction temperature sensor providing an indication when the temperature of the microelectronic die approaches a predetermined maximum, in which case current provided to the thermoelectric module is increased, and a cold-side temperature sensor and a hot-side temperature sensor from which a difference between the cold-side temperature sensor and hot-side temperature sensor provides an indication of a degree of heat that is pumped by the thermoelectric module and is used to control an amount of current to the thermoelectric module in order to maintain a temperature sensed by the junction temperature sensor within a predetermined range. Rather, Watanabe teaches using the difference between the radiator side and inkjet head side of the thermoelectric to determine the temperature of the inkjet head, and further teaches using the control of current to a thermoelectric module by using a determined temperature of the inkjet head. The claimed invention, however, uses a direct reading from the junction temperature sensor to account for the temperature of the microelectronic die and uses a direct reading from the cold-side and hot-side temperature sensors to account for the amount of heat being pumped by the thermoelectric module. This provides for a more accurate and responsive feedback control system than the system taught in Watanabe. For this reason, Watanabe does not cure the deficiencies of Meir.

Moreover, Watanabe cannot be combined with Meir in the manner suggested by the Examiner for the following reason. In Watanabe, the temperature difference between the radiator side and inkjet head side of the thermoelectric element is only taken to determine the inkjet head temperature. If the CPU temperature sensor taught in Meir is implemented, then there is no use for determining such a temperature difference taught in Watanabe because the CPU temperature would already be known. Therefore, the proposed combination would fail to include all limitations of the claimed invention.

Furthermore, Richman teaches a temperature sensor used on a bubble memory device but does not cure the deficiencies addressed above. And, Palfy teaches a cooling system incorporating a humidity sensor but does not cure the deficiencies addressed above.

Therefore, Applicants respectfully submit that independent claim 21 is not rendered obvious in view of Meir, nor any combination of Meir in view of Atkinson, Watanabe, Richman, and/or Palfy, because all the limitations of claim 21 are not taught. Furthermore, the proposed combination of Meir with Watanabe is improper. Therefore, Applicants respectfully submit that claim 21 is in a condition for allowance. Moreover, claims 6-8 depend from claim 21 and are in a condition for allowance for at least the same reasons as for claim 21.

Applicant respectfully submits that the present application is in condition for allowance. If the Examiner believes a telephone conference would expedite or assist in the allowance of the present application, the Examiner is invited to call Michael A. Bernadicou at (408) 720-8300.

Please charge any shortages and credit any overages to Deposit Account No. 02-2666. Any necessary extension of time for response not already requested is hereby requested. Please charge any corresponding fee to Deposit Account No. 02-2666.

Respectfully submitted,

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Dated: 10/14/08

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